

That which is claimed is:

1. A mirror mounting apparatus for a vehicle having a mounting rod with a bore
therethrough defining an outlet, the mounting rod configured to be affixed to the
5 vehicle, the mirror mounting apparatus comprising:

a mirror housing assembly configured to support a mirror glass;

a base member for mounting the mirror housing assembly to the
mounting rod, the base member having a shaft defining an opening therethrough,
the opening in the shaft configured to deliver a line from the outlet of the bore into
10 the mirror housing assembly;

a compression element disposed coaxially about the shaft and configured
to urge the mirror housing assembly and the mounting rod together; and

a locking device having engaged and disengaged positions, the locking
device configured to compress the compression element and releasably hold the
15 mirror housing assembly and the mounting rod together when in the engaged
position.

2. The mirror mounting apparatus of Claim 1, further comprising an adjusting member
defining another opening therethrough to route the line into the mirror mounting
apparatus, the mirror housing assembly adjustably attached to the base member via
20 the adjusting member.

3. The mirror mounting apparatus of Claim 1, further comprising a cap member attachable to the base member such that the mounting rod is disposed between the attached cap and the base members.

4. A mirror mounting apparatus for a vehicle, the mirror mounting apparatus comprising:

a mounting rod having an opening therethrough defining an outlet, the mounting rod configured to be affixed to the vehicle and the opening configured to route a wire through the mounting rod;

a mirror housing assembly configured to support a mirror glass, the mirror housing assembly having a base member for mounting to the mounting rod, the base member having a shaft defining another opening therethrough to route the wire from the outlet into the mirror mounting apparatus;

a cap member attachable to the base member;

an adjusting member having a shaft opening therethrough to receive the shaft and route the wire into the mirror mounting apparatus, the adjusting member adjustably attached to the mirror housing assembly;

a biasing device configured to resistively urge the adjusting member, the mirror housing, and the mounting rod together; and

a locking device having a terminal opening therethrough for delivery of the wire into the mirror mounting apparatus, the locking device configured to

compress the biasing device about the shaft and releasably hold the adjusting member, the mirror housing, and the mounting rod together.

5. A mirror mounting assembly having a mirror housing with a mirror for a vehicle, a wire running through the mirror mounting assembly to the mirror housing, the mirror mounting assembly comprising:

a mounting bar having an inner surface that defines a cavity extending axially, the mounting bar defining an aperture therethrough in communication with the mirror mounting assembly and further defining a first opening therethrough in communication with the cavity, the mounting bar configured to be affixed to the vehicle and the cavity configured to receive the wire from the first opening;

a base member configured to be mounted to a portion of the mounting bar, the base member having a first base surface and a conduit, the conduit having a second opening therethrough and defining a securement element, the conduit in communication with the cavity and configured to route the wire to the second opening;

a cap member attachable to the base member, the cap member and base member configured to adjustably affix the mirror housing to the mounting bar;

a first slide member defining a third opening therethrough, a first spherical surface, and a receiving surface, the third opening configured to receive the conduit and the wire;

a second slide member defining a fourth opening therethrough and a second spherical surface, the second spherical surface configured to contact the receiving surface, the fourth opening configured to receive the conduit and the wire, the first and second slide members configured to slidably adjust relative to each other and to the mirror housing;

a spring compression element configured to be compressibly disposed about a part of the conduit and the wire; and

a fastener defining a fifth opening therethrough, the fifth opening configured to receive the securement element and the wire, the fastener configured to compress the spring compression element and urge together the second slide member, the first slide member, the mirror housing, and the base member, the fastener further configured to rotatably lock to the securement element such that the mirror mounting assembly is coupled together.

6. The mirror mounting assembly of Claim 5, wherein the securement element defines a key and the fastener includes a complimentary keyhole, a transition surface, and a key rest, the fastener configured to compress the spring compression element in excess of a resting compression of the spring compression element such that the transition surface is depressed in a direction toward the mounting bar and the key is in transitory communication with the transition surface, the fastener rotatable such that the key substantially aligns with the key rest, the key resting in the key rest when the

spring compression element is in resting compression such that the fastener operates to lock the mirror mounting assembly together.

7. The mirror mounting assembly of Claim 5, wherein the second slide member defines a receptacle configured to compressibly receive the spring compression element.

5 8. The mirror mounting assembly of Claim 7, wherein the fastener defines a projection disposed substantially opposite the transition surface, the projection configured to seat in the receptacle substantially between the spring compression element and the transition surface.

10 9. The mirror mounting assembly of Claim 5, wherein the second slide member includes an attachment element configured for attachment to an adjustment motor.

10. The mirror mounting assembly of Claim 5, wherein the fourth opening defines a notch configured to permit the key to pass in a direction of the fastener.

15 11. The mirror mounting assembly of Claim 5, further comprising the mirror housing for supporting the mirror, the mirror housing having a passage therethrough, another receiving surface and a second base surface, the passage configured to receive the conduit and the wire, the first spherical surface configured to contact the another receiving surface, the second base surface configured to seat against the first base surface.

12. The mirror mounting assembly of Claim 5, further comprising the wire, the wire selected from the group consisting of an electric motor wire, a heating element wire, a signaling device wire, a hydraulic line, a fiber optic cable and combinations thereof.

13. A mirror mounting assembly for a vehicle, the mirror mounting assembly comprising:

5 a mounting bar having an inner surface that defines a cavity extending axially and an outlet, the mounting bar defining a first opening therethrough in communication with the cavity, the mounting bar configured to be affixed to the vehicle and the cavity configured to receive a wire from the first opening;

 a base member mounted to a portion of the mounting bar, the base
10 member having a first base surface and a conduit with a second opening therethrough, the conduit defining a key element and configured to route the wire from the outlet of the conduit through the mirror mounting assembly;

 a mirror housing for supporting a mirror glass, the mirror housing having a passage therethrough, a first receiving surface and a second base surface,
15 the mirror housing disposed between the base member and the first slide member, the aperture configured to receive the conduit and the wire;

 a first slide member having a third opening therethrough, a first spherical surface, a second receiving surface, and a first raised arcuate member, the third opening configured to receive the conduit, the first spherical surface configured to
20 contact the first receiving surface, the second receiving surface defining a second

raised arcuate surface, the second raised arcuate surface defining a first stopping surface;

5 a second slide member having a fourth opening therethrough, a notch, a second groove, a mounting element, a second spherical surface, and a receptacle, the second groove defining a second stopping surface, the first and second stopping surfaces cooperative to impede a movement of the second slide member beyond a predetermined position, the mounting element having a proximal end and a distal end, the proximal end attached to the second slide member, the distal end depending from the proximal end away from the second slide member, the notch proximate the
10 fourth opening;

means interposed in the mirror mounting assembly for urging together the mirror mounting assembly; and

15 a locking ring having a fifth opening therethrough, a keyhole, and a second transition surface, the keyhole defined proximate the fifth opening and configured to receive the key element when the locking groove is substantially aligned with the keyhole, the locking ring configured such that the second transition surface is axially alignable with the first transition surface, the locking ring further configured to overcome the means for urging together such that the mirror mounting assembly is locked together.

14. The mirror mounting assembly of Claim 13, wherein the base member defines a channel portion, the channel portion configured to be adjustably mounted to the mounting bar.
15. The mirror mounting assembly of Claim 13, further comprising a cap member
5 adjustably mounted to another portion of the mounting bar, the base member and cap member attachable to each other such that the mounting bar is disposed substantially between the cap and base members.
16. A mirror mounting assembly for a vehicle, the mirror mounting assembly comprising:
a mounting rod having a first opening therethrough defining an outlet,
10 the mounting rod configured to be affixed to the vehicle and the first opening configured to route a wire through the mounting rod;
a base member mounted to a portion of the mounting rod, the base member having a first base surface and a conduit with a second opening therethrough, the conduit having a locking key and configured to route the wire
15 from the outlet through the second opening into the mirror mounting assembly;
a mirror housing for supporting a mirror glass, the mirror housing having a passage, a first receiving surface and a second base surface, the passage configured to receive the conduit, the second base surface configured to seat against the first base surface;
20 a first slide member having a third opening therethrough, a first spherical surface, a second receiving surface, and a first raised arcuate member, the third

opening configured to receive the conduit, the second receiving surface defining a second raised arcuate member, the second raised arcuate surface defining a first stopping surface, the first receiving surface contacting the first spherical surface;

a second slide member having a fourth opening therethrough, a notch, a second groove, a mounting element, a second spherical surface, and a receptacle, the second groove defining a second stopping surface, the first and second stopping surfaces cooperative to impede a movement of the second slide member beyond a predetermined position, the mounting element having a proximal end and a distal end, the proximal end attached to the second slide member, the distal end depending from the proximal end away from the second slide member, the notch proximate the fourth opening;

a spring compression element configured to compressibly seat in the second slide member; and

a fastener having a fifth opening therethrough and a transition surface, the fifth opening configured to deliver an end of the wire to the mirror mounting assembly, the fastener configured to be depressed axially in a direction of the mounting rod to compress the spring compression element and urge together the base member, the mirror housing, the first slide member, and the second slide member, the fastener and the locking key configured to translate rotation of the fastener relative to the locking key to lock the mirror mounting assembly together.

17. The mirror mounting assembly of Claim 16, further comprising mating alignment elements disposed on the transition surface, the fastener configured to be rotationally secured to the second slide member.

18. A mirror mounting assembly for a vehicle, the mirror mounting assembly having a mounting bar with an opening therethrough defining an outlet, the opening configured to route a wire through the mounting bar, the mirror mounting assembly comprising:

a mirror housing body configured to support a mirror glass;

a base member for attachment to the mounting bar and to the mirror housing body, the base member defining another opening therethrough to route the wire from the outlet into the mirror housing body; and

a cap member for attachment to the mounting bar, the cap member and base member cooperable to adjustably attach to the mounting bar and configured to releasably attach to each other.

19. The mirror mounting assembly of Claim 18, further comprising:

a fastener having a terminal opening therethrough for delivery of the wire from the another opening into the mirror housing body, the fastener configured to compress a biasing device to releasably hold the mirror housing body to the base member.

20. A method of assembling a rearview mirror mounting assembly for a vehicle, the mounting assembly having a mounting rod, a housing, a base member having a hole

therethrough, a cap member, a spring element, and a fastener, the mounting assembly configured for receiving a wire, the method of assembling the rearview mirror mounting assembly comprising the steps of:

5 providing the mounting rod with an opening and an outlet therethrough, the rod configured for attachment to the vehicle and to the base member, the opening configured to feed the wire through the rod and into the base member from the outlet;

providing the wire to be routed;

feeding the wire through the opening in the mounting rod;

10 feeding the wire from the outlet through the hole in the base member and into the housing;

connecting the wire to an element in the housing, the element selected from a group consisting of an electric motor wire, a heating element wire, a display device wire, a hydraulic line, a fiber optic cable and combinations thereof;

releasably attaching the base member and the cap member to the mounting rod;

15 connecting the housing, the base member, and the spring element together with the fastener; and

attaching a mirror element to the housing.